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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,626	10/24/2003	Carl W. Gerst III	C03-006	1510
23459	7590	06/15/2006	EXAMINER TRAIL, ALLYSON NEEL	
ARTHUR J. O'DEA LEGAL DEPARTMENT COGNEX CORPORATION ONE VISION DRIVE NATICK, MA 01760-2077			ART UNIT 2876	
DATE MAILED: 06/15/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

Office Action Summary	Application No. 10/693,626	Applicant(s) GERST ET AL.	
	Examiner Allyson N. Trail	Art Unit 2876	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 4/13/2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 and 23-35 is/are rejected.
- 7) ☒ Claim(s) 20-22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Amendment

1. Receipt is acknowledged of the Amendment filed April 13, 2006.

Claim Objections

2. Claim 11 is objected to because of the following informalities:

Re claim 11, line 6: replace "the light pipe" with --the first light pipe--.

Re claim 11, lines 9-10: replace "the first light pipe" with --the second light pipe--.

Claim 11 is unclear as it currently stands. The above is only a suggestion for clarification. Currently, it appears that the first light pipe disclosed to have both a tip adapted to project both low-angle and high-angle field illumination. However it is believed what is intended is for the first light pipe to include a tip adapted to project a low-angle dark field illumination pattern and the second light pipe to include a tip adapted to project a high-angle bright field illumination.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 5, 8, 30, and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Hattersley et al (2002/0000472), hereinafter Hattersley.

With respect to claims 1, 30, and 32, Hattersley teaches in figure 5 an illuminator 20 for illuminating a subject that is imaged by an image sensor. The illuminator includes at least one light pipe 30, which creates a first ring light source arranged in a perimeter of a predetermined shape. The light pipe 30, has a predetermined cross-section and defines through its hollow tube, an inner lumen (from the LEDs 28), through which the sensor (60, shown in figure 14) views the subject 12. The light pipe 30, includes a tip adapted to project a low-angle dark field illumination pattern on the subject (paragraph 0010).

Hattersley discloses in paragraph 0009, a controller that selectively controls predetermined portions of the first ring light source to project a variable light around the perimeter. "The scanner assembly includes a low-angle light delivery system that focuses the light from the scanner to the precise point where the light is needed, and at an angle at which problems from specular reflection are considerably reduced."

Additionally, with respect to claim 30, the illumination pattern (determined by the light pipe) clearly covers a reduced area with respect to the field of view. The reduced field of view created by the illumination pattern highlights an aiming location.

With respect to claim 5, Hattersley illustrates in figures 2, 3, 5, 7, 8, 12, and 13 that the predetermined shape defines a shape that reduces a field of view of the image sensor.

With respect to claim 8, Hattersley shows in figure 2, a handheld scanning appliance.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2, 11, 12, 15, 18, 23, 26, 28, 31, and 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hattersley in view of Goltsos (6,384,920).

Hattersley's teachings are discussed above, including disclosing more than one light pipe. With respect to claim 12, see Hattersley's teachings above in regards to claims 1, 30, and 32. With respect to claims 15 and 26, see Hattersley's teachings above in regards to claim 30. With respect to claims 18, 28, and 33, see Hattersley's teachings above in regards to claim 8. With respect to claim 35, see Hattersley's teachings above in regards to claims 1, 30, and 32.

Hattersley however fails specifically teach the second light pipe to project a high-angle illumination pattern with respect to the subject.

Regarding claims 2, 11, 23, 31, and 34, although, not specifically disclosed, Hattersley explains in paragraph 0023, that there is a desire to enhance the detectability (i.e., readability) of the subject or symbol, especially where it has been laser etched on the surface. Hattersley further discloses in paragraph 0023 that laser etched areas are more visible when illuminated at a high incidence angle relative to the normal. Additionally, with respect to claim 34, the second light pipe taught by Hattersley may be

considered to be a high-angle bright field illuminator located externally to the first light pipe disclosed in claim 34.

Therefore in view of Hattersley's own teachings it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the first and second light pipes taught by Hattersley with a tips adapted to project a low-angle dark field illumination and a high-angle bright field illumination respectively. As is disclosed by Hattersley, one would be motivated to use a high-angle illumination for imaging laser etched areas in order to enhance readability of the symbol.

7. Claims 3, 4, 6, 7, 13, 14, 16, 17, 24, 25, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hattersley in view of Goltsos (6,384,920).

Hattersley's teachings are discussed above. Hattersley however fails to specifically teach the various shapes of the illuminator.

Goltsos discloses in the abstract, that the invention relates to a method and apparatus for identifying articles.

With respect to claims 3, 4, 6, 7, 13, 14, 16, 17, 24, 25, and 27, Goltsos illustrates in figure 1 a scanner with a laser light source 1. The scanner includes a light pipe that preferably has a cross sectional shape the same as the shape of the acquisition field of view (i.e., if the field of view is designed to be square, then the crystal cross section is square as well). (Column 7, line 56 – Column 8, line 10).

In view of Goltsos's teachings it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the various shaped illuminators taught by Goltsos in addition to the illuminator taught by Hattersley. Although Hattersley

Art Unit: 2876

does not specifically teach the various shapes, Hattersley teaches above that the scanner assembly includes a low-angle light delivery system that focuses the light from the scanner to the precise point where the light is needed, and at an angle at which problems from specular reflection are considerably reduced. Therefore one would be motivated to use various shapes in order to obtain the desired illumination so that the problems from specular reflection are reduced.

8. Claims 9, 10, 19, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hattersley in view of Patel et al(2003/0080189), hereinafter Patel.

Hattersley's teachings are discussed above. Hattersley however fails to specifically teach a beam to assist aiming the image sensor at the subject.

With respect to claims 9, 10, 19, and 29, Patel teaches in paragraph 0011, providing illumination and to assist in aiming of an imaging system. Patel teaches employing either lasers or light emitting diodes (LEDs) for assistance in aiming the image sensor.

In view of Patel's teachings it would have been obvious to one of ordinary skill in the art at the time the invention was made to use an aiming aid as is taught by Patel in combination with the image capturing device taught by Hattersley. One would be motivated include assistance in aiming in order to clearly depict the object that is to be scanned before the scanning or imaging occurs. An aiming system will help with accuracy.

Allowable Subject Matter

9. Claims 20-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form, including all of the limitations of the base claim and any intervening claims.

The following is an examiner's for allowance: Although Hattersley teaches an illuminator for illuminating a subject that is imaged by an image sensor, which includes both a first/second ring and a light pipes, the above identified prior art of record, taken alone, or in combination with any other prior art, fails to teach or fairly suggest the specific limitations of claims 20-22 of the present claimed invention. In particular, prior art does not teach the claimed illuminator wherein each of the first light pipe and the second light pipe are mounted together with a securing ring sized and arranged to secure to a camera assembly. Secondly, prior art fails to teach the illuminator wherein the second ring is nested within the first ring and wherein the tip of the second ring is recessed with respect to the tip of the first ring so as to provide an area in an inner wall of the first ring adjacent of the tip of the first ring for projection of the low-angle dark field illumination pattern therefrom. The above limitations are not disclosed in prior art and moreover, one of ordinary skill in the art would not have been motivated to come to the claimed invention.

Response to Arguments

10. Applicant's arguments with respect to claims 1-35 have been considered but are moot in view of the new ground(s) of rejection. It is believed that Hattersley clearly teaches the claimed limitations of claims 1-19 and 23-35.

Conclusion


11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to *Allyson N. Trail* whose telephone number is (571) 272-2406. The examiner can normally be reached between the hours of 7:30AM to 4:00PM Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee, can be reached on (571) 272-2398. The fax phone number for this Group is (571) 273-8300.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [allyson.trail@uspto.gov].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Allyson N. Trail
Patent Examiner
Art Unit 2876
June 3, 2006


STEVEN S. PAIK
PRIMARY EXAMINER